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clearly that the embryo is formed by concrescence. At first the embryo increases in length largely by the formation of new somites, but after about one hundred myotomes appear, growth seems to be more in the increase in size of the somites. Especially noticeable are the large blood sinuses which develop around the embryo. No sections are described in the paper.

The Primitive Pulmonate Kidney. — Meisenheimer points out (*Zeits. wiss. Zool.*, Vol. LXV, 1899) that the apparently distinct types of primitive kidney found in Stylommatophora and Basommatophora can be reduced to a simple tube, closed at its inner end by a differentiated ciliated cell. In the process of differentiation the tube of the Basommatophora retains constantly four cells, while in the Stylommatophora the number is greatly increased. In the Basommatophora one cell becomes greatly enlarged, and in this the process of excretion is concentrated, while no such giant cell is developed in the other group, but excretion is performed by many cells. It is difficult to homologize this system with that found in other molluscs. Meisenheimer points out the similarities of this system to the conditions occurring in the Plathelmenthes, and cites this as an additional proof of the origin of the molluscs from the flat worms.

Life History of the Dicyemids. — As a result of studies of Californian dicyemids, Wheeler concludes (*Zool. Anz.*, Bd. XXII, p. 169, 1899) that the same Dicyema is first nematogen and later rhombogen, and that the so-called infusoriform embryo is, as van Beneden suggested, the male dicyemid. From the relations of the infusorigens and the life history of the animals Wheeler concludes that the male dicyemids arise from fertilized eggs, while the females are produced parthenogenetically. Wheeler points out that this interpretation throws little light upon the systematic position of these forms, since their reproduction is very different from the flat worms. He thinks, therefore, that they should not be an Anhang to the Plathelminthes, while he also thinks they are not worthy of being erected into a subkingdom Mesozoa.

Origin of the Cartilages of the Head. — Lundborg has studied embryos of trout, frog, siredon, and acanthias, and comes to the conclusion (*Morph. Jahrbuch*, Bd. XXVII, p. 242, 1899) that the chondrocranium is of ectodermal origin. He calls attention to the fact that all of the cartilages of the head arise upon the ventral